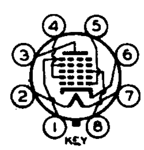
6SA7
6SA7-GT/G

6SA7, 6SA7-GT/G

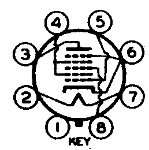
PENTAGRID CONVERTER

Heater■	Coated Unipotential Cathode		
Voltage	6.3		a-c or d-c volts
Current	0.3		amp.
Direct Interelectrode Capacitances:	*6SA7*	*6SA7-GT/G*	◄—
Grid #3 to All Other Electrodes (R-F Input)	9.5▲	11▲▲	μμf
Plate to All Other Electrodes (Mixer Output)	12▲	11▲▲	μμf
Grid #1 to All Other Electrodes (Osc. Input)	7▲	8▲▲	μμf
Grid #3 to Plate	0.13 max.▲	0.5 max.▲▲	μμf
Grid #3 to Grid #1	0.15 max.▲	0.4 max.▲▲	μμf
Grid #1 to Plate	0.06 max.▲	0.2 max.▲▲	μμf
Grid #1 to Shell, Grid #5, and All Other Electrodes except Cathode	4.4	-	μμf
Grid #1 to All Other Electrodes except Cathode & Grid #5	-	5	μμf
Grid #1 to Cathode	2.6	-	μμf
Grid #1 to Cathode & Grid #5	-	3	μμf
Cathode to Shell, Grid #5, and All Other Electrodes except Grid #1	5	-	μμf
Cathode and Grid #5 to All Other Electrodes except Grid #1	-	14	μμf
Maximum Overall Length	2-5/8"	3-5/16"	
Maximum Seated Height	2-1/16"	2-3/4"	
Maximum Diameter	1-5/16"	1-5/16"	
Bulb	Metal Shell MT-8	T-9	
Base	Small Wafer Octal 8-Pin	Intermed. Sh. Octal 8-Pin	

Pin 1 { 6SA7, Shell, Grid #5; 6SA7-GT/G, No Conn.
Pin 2 - Heater
Pin 3 - Plate
Pin 4 - Grids #2 & #4
Pin 5 - Grid #1
Pin 6 { 6SA7, Cathode; 6SA7-GT/G, Cathode & Grid #5
Pin 7 - Heater
Pin 8 - Grid #3



BOTTOM VIEW (8R)



BOTTOM VIEW (G-8AD)

Mounting Position — Any

Maximum And Minimum Ratings Are Design-Center Values

CONVERTER SERVICE

Plate Voltage	300 max.	volts
Grids #2 & #4 Voltage	100 max.	volts
Grids #2 & #4 Supply Voltage	300 max.	volts
Grid #3 Voltage *	0 min.	volts
Plate Dissipation	1.0 max.	watt
Screen Dissipation	1.0 max.	watt
Total Cathode Current	14 max.	ma.

■ In circuits where the cathode is not directly connected to the heater, the potential difference between heater and cathode should be kept as low as possible.
▲ With shell connected to cathode.
▲▲ With external shield connected to cathode.
* For self-excited oscillator.
◄— Indicates a change.

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6SA7, 6SA7-GT/G
PENTAGRID CONVERTER

(continued from preceding page)

Characteristics:

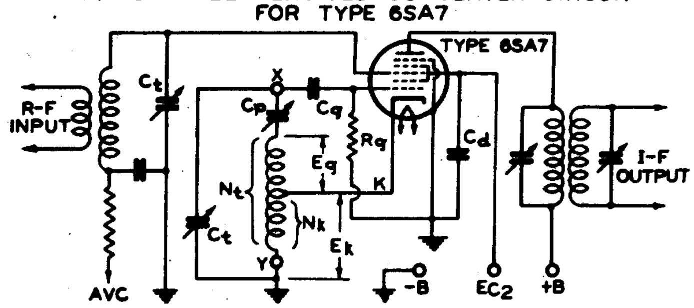
	*Self-excitation**		*Separate Excitation*		
Plate Voltage	100	250	100	250	volts
Grids #2 & #4 Volt.	100	100	100	100	volts
Grid #3 (Control) Volt.	0	0	−2	−2	volts
Grid #1 Resistor	20000	20000	20000	20000	ohms
Plate Res. (Approx.)	0.5	1.0	0.5	1.0	megohm
Conversion Transcond.	425	450	425	450	μmhos
Conversion Transcond. (Approx.) ‡	2	2	2	2	μmhos
Plate Current	3.3	3.5	3.3	3.5	ma.
Grids #2 & #4 Current	8.5	8.5	8.5	8.5	ma.
Grid #1 Current	0.5	0.5	0.5	0.5	ma.
Total Cathode Current	12.3	12.5	12.3	12.5	ma.

NOTE: The transconductance between Grid #1 and Grids #2 & #4 connected to plate (not oscillating) is approximately 4500 μmhos under the following conditions: Grids #1, #3, and shell at 0 volts; Grids #2 & #4 and plate at 100 volts.

* Characteristics are approximate only and are shown for a Hartley circuit with a feedback of approximately 2 volts peak in the cathode circuit.

‡ With Grid #3 bias of −35 volts.

TYPICAL SELF-EXCITED CONVERTER CIRCUIT
FOR TYPE 6SA7

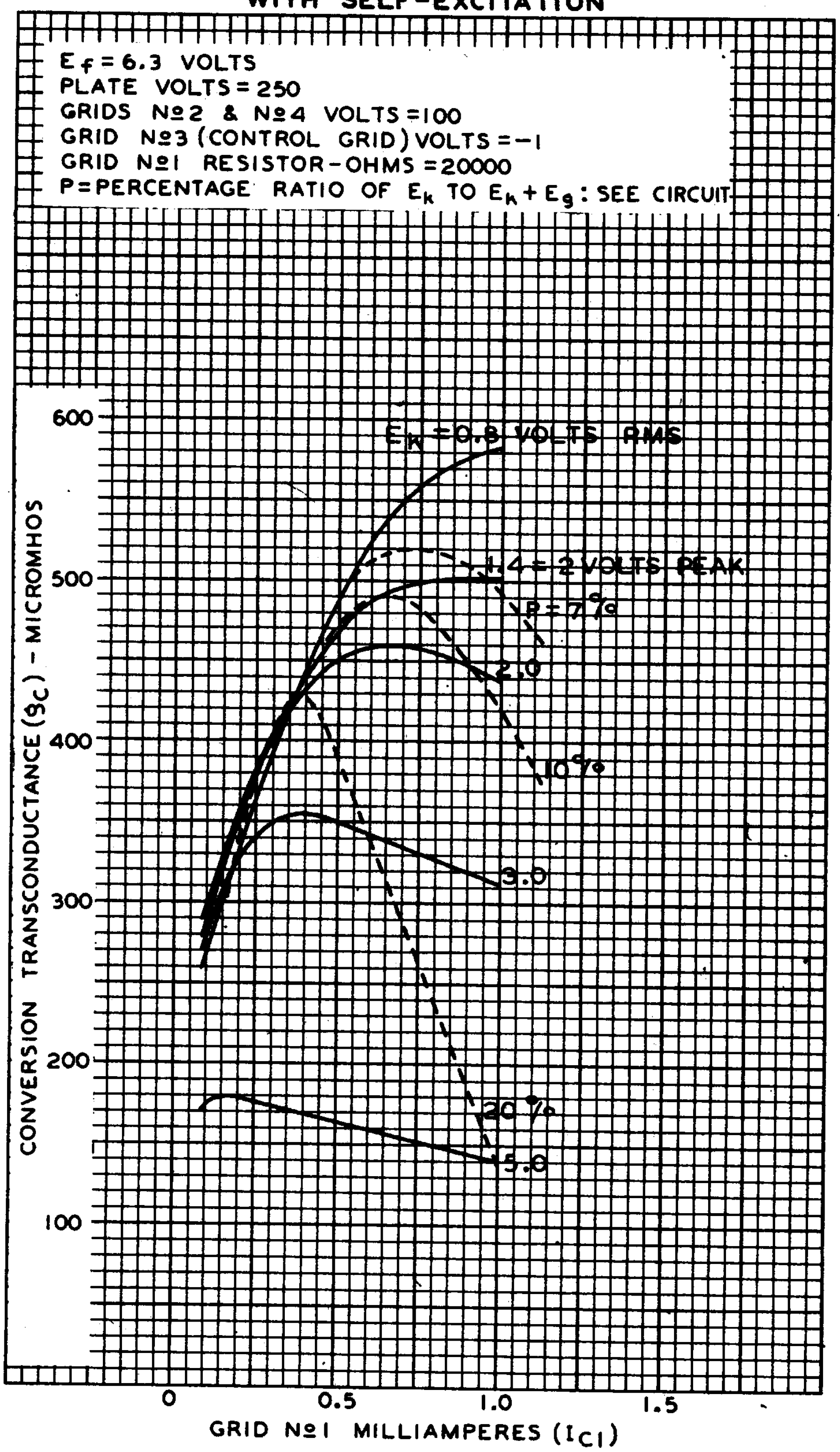


Cd = BY-PASS COND.
Cq = 50 μμf
Cp = PADDING COND.
Ct = TUNING COND.
Nt = TOTAL TURNS IN OSC. COIL
Nk = TURNS IN CATHODE SECTION OF OSC. COIL
Rq = 20000 OHMS
CE-4992

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6SA7

6SA7
OPERATION CHARACTERISTICS
WITH SELF-EXCITATION



NOV. 2, 1938

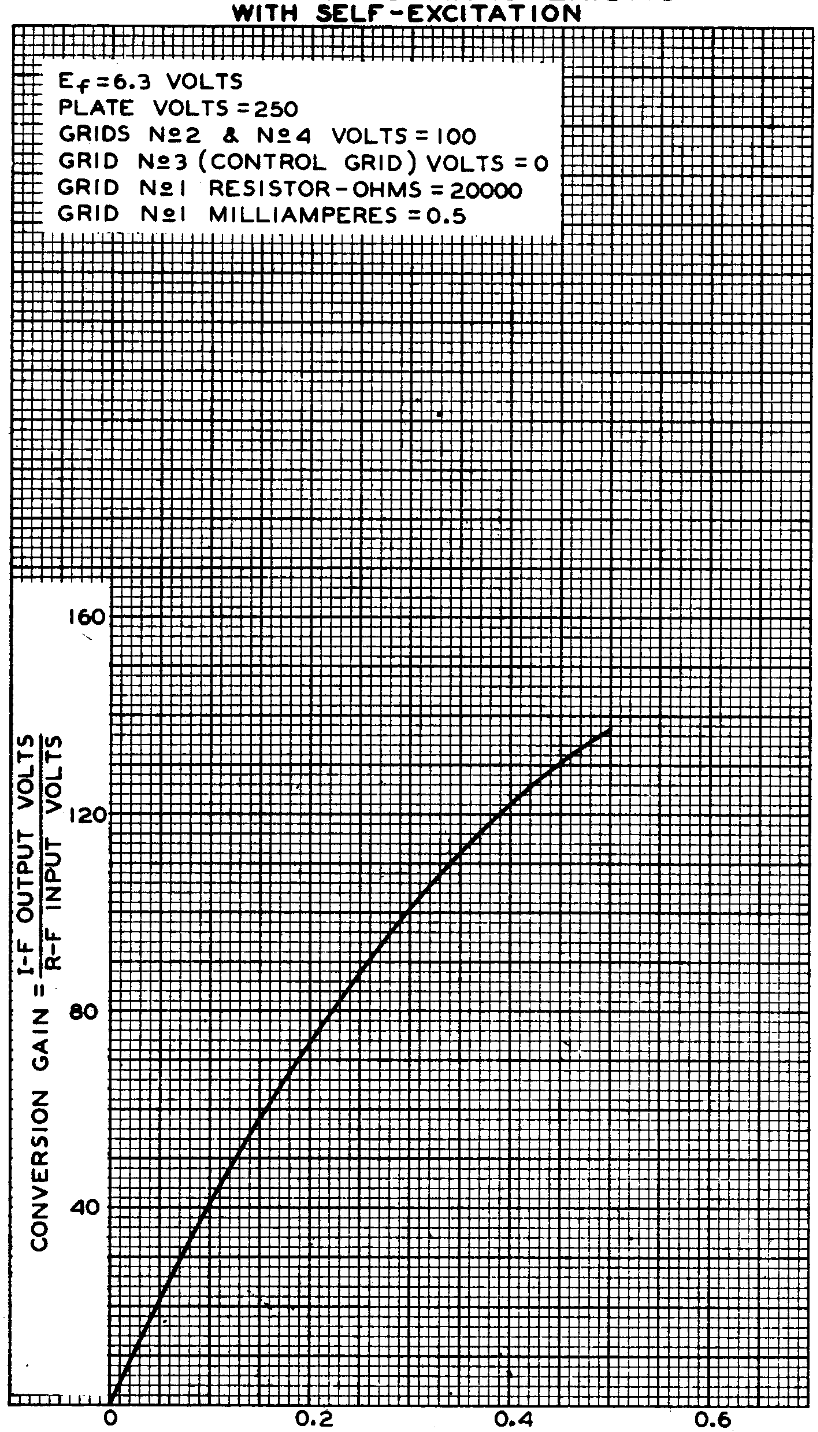
RCA RADIOTRON DIVISION
RCA MANUFACTURING COMPANY, INC.

92C-4993

6SA7

6SA7

OPERATION CHARACTERISTIC
WITH SELF-EXCITATION

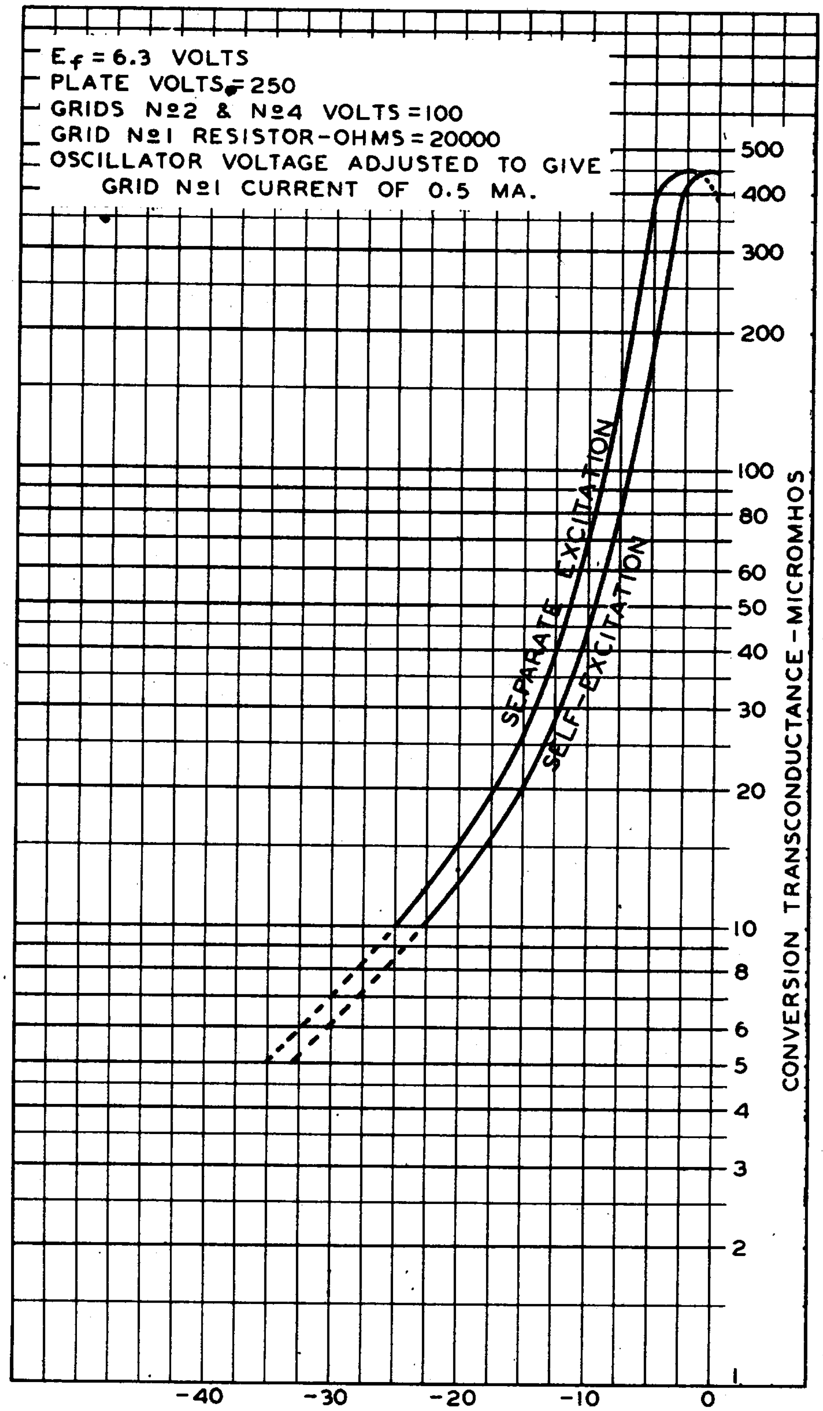


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6SA7

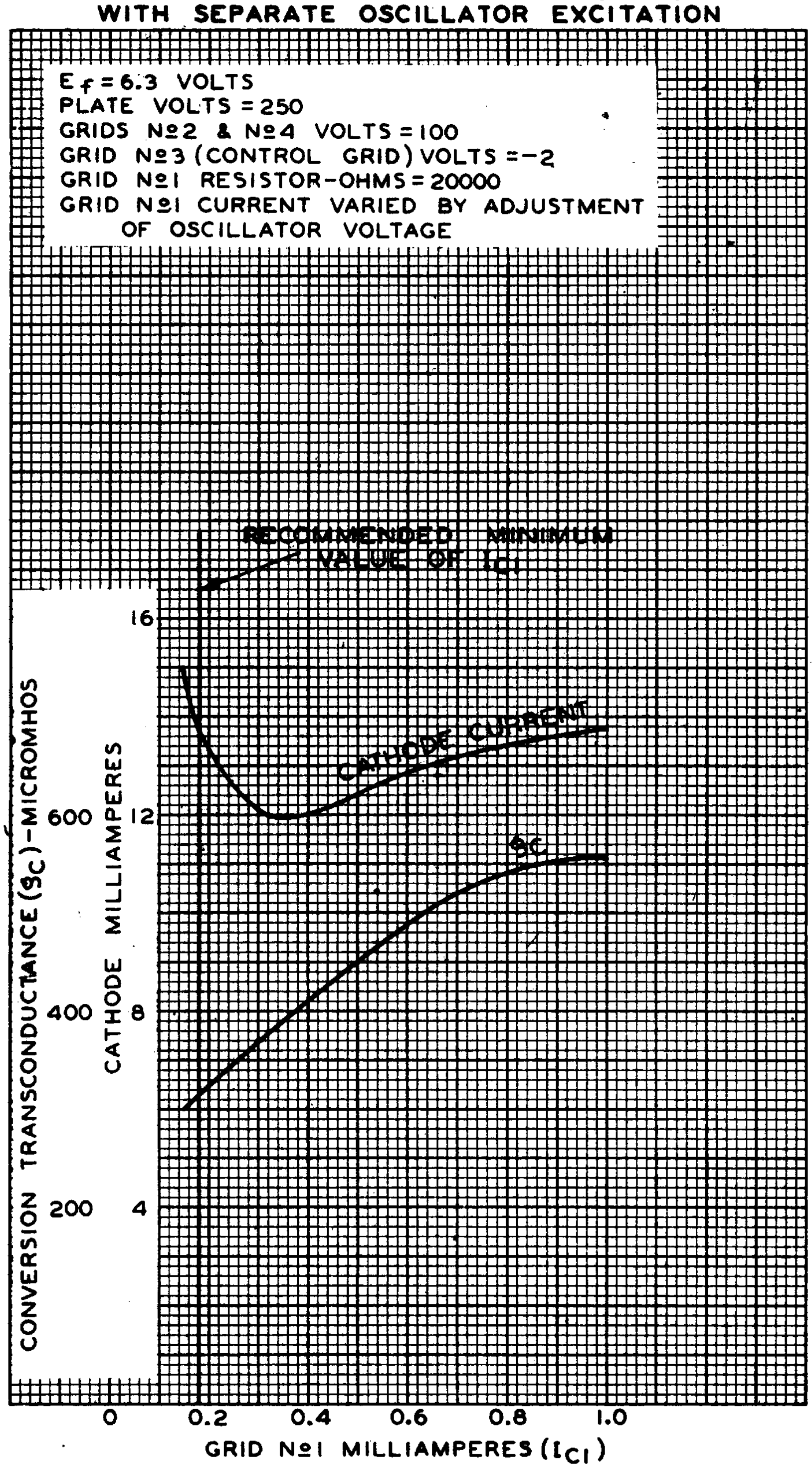
OPERATION CHARACTERISTICS



6SA7

6SA7

OPERATION CHARACTERISTICS
WITH SEPARATE OSCILLATOR EXCITATION



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